107. The strictly nonblocking network of claim 103,

wherein each of said input switches, or each of said output switches, or each of said middle switches further recursively comprise one or more strictly nonblocking networks.

5   108. The network of claim 101,

wherein each of said input switches, or each of said output switches, or each of said middle switches further recursively comprise one or more networks.

109. A network comprising a plurality of input subnetworks, a plurality of middle subnetworks, and a plurality of output subnetworks, wherein at least one of said input subnetworks, said middle subnetworks and said output subnetworks recursively comprise:

10

an input stage comprising r_1 input switches and n_1 inlet links for each of said r_1 input switches;

an output stage comprising r_2 output switches and n_2 outlet links for each of said r_2 output switches; and

15   a middle stage, said middle stage comprising m middle switches, and each middle switch comprising at least one link (hereinafter "first internal link") connected to each input switch for a total of at least r_1 first internal links, each middle switch further comprising at least one link (hereinafter "second internal link") connected to each output switch for a total of at least r_2 second internal links, for $x \leq 2$;

20   wherein each multicast connection from an inlet link passes through at most x middle switches, and said multicast connection further passes to a plurality of outlet links from said at most x middle switches.

-48-